WE CLAIM AS OUR INVENTION:

1. A method to produce a volume data set, comprising the steps of:

segmenting an imaged surface of a subject imaged in a first volume data set;

transforming the first volume data set into a second volume data set, causing the segmented imaged surface to be transformed into a plane; and

producing a third volume data set by filtering the second volume data set such that structures not of interest of the subject, imaged in the second volume data set, are filtered out based on features associated in general with structures not of interest and based on expected removals from the surface of the structures not of interest, and such that structures of interest of the subject, imaged in the second volume data set (50), remain based on features associated with structures of interest, and based on the expected removals of the structures not of interest from the surface.

2. A method as claimed in claim 1, wherein the subject is a first subject and wherein at least one imaged second subject that is disposed outside of the first subject, and comprising filtering out the imaged second subject from the second volume data set with the non-interesting imaged structures.

3. A method as claimed in claim 1 comprising filtering the second volume data set by at least one of a density-oriented, texture-oriented, edge-sensitive and morphological filtering associated with at least one of the structures not of interest and the structures of interest.

4. A method as claimed in claim 1 comprising obtaining the first volume data set as a number of successive computed tomographic slice images, with image

data of each slice image described with Cartesian coordinates and comprising, for segmenting the imaged body surface:

implementing a coordinate transformation for each slice image to polar coordinates with regard to a straight line (G) that proceeds through the imaged subject and that is aligned substantially at a right angle to the individual slice images;

determining contours that are imaged in each transformed slice image and that are associated with the imaged surface;

transforming the image points of the determined contours back into the coordinate system associated with the first volume data set; and

re-extracting image points along the contours for representing the surface of the imaged first subject transformed in the plane.

5.   A method as claimed in claim 4 comprising producing a fourth volume data set in which the image points of the third volume data set are transformed back into the coordinate system associated with the first volume data set.

6.   A method as claimed in claim 5 comprising representing an image associated with the fourth volume data set by volume rendering.